

Terms used

digital rights management debugging application process

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Relevance scale ☐ ☐ ☐ ☐ ☐

1 [Computing curricula 2001](#)


September 2001 **Journal on Educational Resources in Computing (JERIC)**

Publisher: ACM Press

Full text available:  [pdf\(613.63 KB\)](#)
 [html\(2.78 KB\)](#)


Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

2 [Fast detection of communication patterns in distributed executions](#)

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research CASCON '97**

Publisher: IBM Press

Full text available:  [pdf\(4.21 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

3 [Reconfigurable hardware solutions for the digital rights management of digital cinema](#)



G. Rouvroy, F.-X. Standaert, F. Lefèbvre, J.-J. Quisquater, B. Macq, J.-D. Legat

October 2004 **Proceedings of the 4th ACM workshop on Digital rights management DRM '04**

Publisher: ACM Press

Full text available:  [pdf\(440.86 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents a hardware implementation of a decoder for Digital Cinema images. This decoder enables us to deal with image size of 2K with 24 frames per second and 36 bits per pixels. It is the first implementation known nowadays that perfectly fits in one single Virtex-II® FPGA and includes AES decryption, JPEG 2000 decompression and fingerprinting blocks. This hardware offers therefore high-quality image processing as well as robust security.

Keywords: AES, DRM, FPGA, JPEG 2000, digital cinema, watermarking

4 [GPGPU: general purpose computation on graphics hardware](#)



David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: [pdf\(63.03 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#)

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

5 Proceedings of the SIGNUM conference on the programming environment for development of numerical software



March 1979 **ACM SIGNUM Newsletter**, Volume 14 Issue 1

Publisher: ACM Press

Full text available: [pdf\(5.02 MB\)](#) Additional Information: [full citation](#)

6 The relational model for database management: version 2

E. F. Codd

January 1990 Book

Publisher: Addison-Wesley Longman Publishing Co., Inc.

Full text available: [pdf\(28.61 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

From the Preface (See Front Matter for full Preface)

An important adjunct to precision is a sound theoretical foundation. The relational model is solidly based on two parts of mathematics: firstorder predicate logic and the theory of relations. This book, however, does not dwell on the theoretical foundations, but rather on all the features of the relational model that I now perceive as important for database users, and therefore for DBMS vendors. My perceptions result from 20 y ...

7 Conference on Data Systems Languages (CODASYL) interview: May 27-28, 1969

Charlie Bachman, Dan Fogal, Jack Jones, Dick Kerr, Chuck Greenberger, David Black, Mary Hollis, Greg Dillon, Jim Sweeney, Steve Wright, Bob Bemer, Grace Murray Hopper, Bill Randall, Brian Reynolds, Danny, Bill Olle, John Young, Warren Simmons, Bob Grace, Howard Bramberg, Marty Greenville, Stan Epwood, Anaheim Bushed, Tax Metaxides, Bill McGee, John Gosden, Marty Greenfield, Jonas Raven, George Mann, Goodrich Hubert, Ron Hamm, Jim Manner, Herb Beta, Bill Keating, Peg Harper, Dick Schubert, Herb Manative

August 1999 **Computer Oral History Collection**

Publisher: Smithsonian Institution Press

Full text available: [Publisher Site](#) Additional Information: [full citation](#)

8 System support for pervasive applications



Robert Grimm, Janet Davis, Eric Lemar, Adam Macbeth, Steven Swanson, Thomas Anderson, Brian Bershad, Gaetano Borriello, Steven Gribble, David Wetherall

November 2004 **ACM Transactions on Computer Systems (TOCS)**, Volume 22 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.82 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Pervasive computing provides an attractive vision for the future of computing. Computational power will be available everywhere. Mobile and stationary devices will dynamically connect and coordinate to seamlessly help people in accomplishing their tasks. For this vision to become a reality, developers must build applications that

constantly adapt to a highly dynamic computing environment. To make the developers' task feasible, we present a system architecture for pervasive computing, called & ...


Keywords: Asynchronous events, checkpointing, discovery, logic/operation pattern, migration, one.world, pervasive computing, structured I/O, tuples, ubiquitous computing

9 The architecture of concurrent programs

Per Brinch Hansen

January 1977 Book

Publisher: Prentice-Hall, Inc.

Full text available:  [pdf\(10.71 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

From the Preface

CONCURRENT PROGRAMMING

This book describes a method for writing concurrent computer programs of high quality. It is written for professional programmers and students who are faced with the complicated task of building reliable computer operating systems or real-time control programs.


The motivations for mastering concurrent programming are both economic and intellectual. Concurrent programming makes it possible to use a compu ...

10 The theory of parsing, translation, and compiling

Alfred V. Aho, Jeffrey D. Ullman

January 1972 Book

Publisher: Prentice-Hall, Inc.

Full text available:  [pdf\(98.28 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

From volume 1 Preface (See Front Matter for full Preface)

This book is intended for a one or two semester course in compiling theory at the senior or graduate level. It is a theoretically oriented treatment of a practical subject. Our motivation for making it so is threefold.

(1) In an area as rapidly changing as Computer Science, sound pedagogy demands that courses emphasize ideas, rather than implementation details. It is our hope that the algorithms and concepts present ...

11 Curriculum '68: Recommendations for academic programs in computer science: a report of the ACM curriculum committee on computer science



William F. Atchison, Samuel D. Conte, John W. Hamblen, Thomas E. Hull, Thomas A. Keenan, William B. Kehl, Edward J. McCluskey, Silvio O. Navarro, Werner C. Rheinboldt, Earl J. Schewpe, William Viavant, David M. Young

March 1968 **Communications of the ACM**, Volume 11 Issue 3

Publisher: ACM Press

Full text available:  [pdf\(6.63 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#)

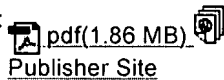
Keywords: computer science academic programs, computer science bibliographies, computer science courses, computer science curriculum, computer science education, computer science graduate programs, computer science undergraduate programs

12 TINA: a natural language system for spoken language applications

Stephanie Seneff

Publisher: MIT Press

Full text available:



Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

A new natural language system, *TINA*, has been developed for applications involving spoken language tasks. *TINA* integrates key ideas from context free grammars, Augmented Transition Networks (ATN's), and the unification concept. *TINA* provides a seamless interface between syntactic and semantic analysis, and also produces a highly constraining probabilistic language model to improve recognition performance. An initial set of context-free rewrite rules provided by hand is first ...

13 SPOTS'06 session 4--new sensors and architectures: The low power energy aware processing (LEAP) embedded networked sensor system

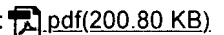


Dustin McIntire, Kei Ho, Bernie Yip, Amarjeet Singh, Winston Wu, William J. Kaiser
April 2006 **Proceedings of the fifth international conference on Information**

processing in sensor networks IPSN '06

Publisher: ACM Press

Full text available:



Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A broad range of embedded networked sensor (ENS) systems for critical environmental monitoring applications now require complex, high peak power dissipating sensor devices, as well as on-demand high performance computing and high bandwidth communication. Embedded computing demands for these new platforms include support for computationally intensive image and signal processing as well as optimization and statistical computing. To meet these new requirements while maintaining critical support for ...

Keywords: embedded wireless networked sensor, energy-aware multiprocessor platform, sensor platform hardware and software architecture

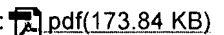
14 Towards a debugging system for sensor networks

Nithya Ramanathan, Eddie Kohler, Deborah Estrin

July 2005 **International Journal of Network Management**, Volume 15 Issue 4

Publisher: John Wiley & Sons, Inc.

Full text available:



Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Due to their resource constraints and tight physical coupling, sensor networks afford limited visibility into an application's behavior. As a result it is often difficult to debug issues that arise during development and deployment. Existing techniques for fault management focus on fault tolerance or detection; before we can detect anomalous behavior in sensor networks, we need first to identify what simple metrics can be used to infer system health and correct behavior. We propose metrics and e ...

15 Digital control of industrial processes

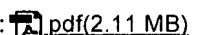


Cecil L. Smith

September 1970 **ACM Computing Surveys (CSUR)**, Volume 2 Issue 3

Publisher: ACM Press

Full text available:



Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

16 Charles W. Bachman interview: September 25-26, 2004; Tucson, Arizona

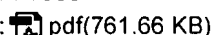


Thomas Haigh

January 2006 **ACM Oral History interviews**

Publisher: ACM Press

Full text available:



Additional Information: [full citation](#), [abstract](#)

Charles W. Bachman reviews his career. Born during 1924 in Kansas, Bachman attended

high school in East Lansing, Michigan before joining the Army Anti Aircraft Artillery Corp, with which he spent two years in the Southwest Pacific Theater, during World War II. After his discharge from the military, Bachman earned a B.Sc. in Mechanical Engineering in 1948, followed immediately by an M.Sc. in the same discipline, from the University of Pennsylvania. On graduation, he went to work for Do ...

17 Parallel execution of prolog programs: a survey



Gopal Gupta, Enrico Pontelli, Khayri A.M. Ali, Mats Carlsson, Manuel V. Hermenegildo
July 2001 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,

Volume 23 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.95 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Since the early days of logic programming, researchers in the field realized the potential for exploitation of parallelism present in the execution of logic programs. Their high-level nature, the presence of nondeterminism, and their referential transparency, among other characteristics, make logic programs interesting candidates for obtaining speedups through parallel execution. At the same time, the fact that the typical applications of logic programming frequently involve irregular computatio ...

Keywords: Automatic parallelization, constraint programming, logic programming, parallelism, prolog

18 Summary of the Second International Workshop on Network and Operating System



Support for Digital Audio and Video

Ralf Guido Herrtwich

April 1992 **ACM SIGOPS Operating Systems Review**, Volume 26 Issue 2

Publisher: ACM Press

Full text available: [pdf\(2.58 MB\)](#)

Additional Information: [full citation](#), [index terms](#)

19 Aurora: a new model and architecture for data stream management

Daniel J. Abadi, Don Carney, Ugur Çetintemel, Mitch Cherniack, Christian Convey, Sangdon Lee, Michael Stonebraker, Nesime Tatbul, Stan Zdonik

August 2003 **The VLDB Journal – The International Journal on Very Large Data Bases**, Volume 12 Issue 2

Publisher: Springer-Verlag New York, Inc.

Full text available: [pdf\(585.97 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Abstract. This paper describes the basic processing model and architecture of Aurora, a new system to manage data streams for monitoring applications. Monitoring applications differ substantially from conventional business data processing. The fact that a software system must process and react to continual inputs from many sources (e.g., sensors) rather than from human operators requires one to rethink the fundamental architecture of a DBMS for this application area. In this paper, we present Aur ...

Keywords: Continuous queries, Data stream management, Database triggers, Quality-of-service, Real-time systems

20 Summary of the Second International Workshop on Network and Operating System



Support for Digital Audio and Video

Ralf Guido Herrtwich

April 1992 **ACM SIGCOMM Computer Communication Review**, Volume 22 Issue 2

Publisher: ACM Press

Full text available: [pdf\(2.32 MB\)](#)

Additional Information: [full citation](#), [index terms](#)

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STIC Search Report

EIC 2100

STIC Database Tracking Number: 223106

TO: Andrew Chou
Location: RND 5b19
Art Unit: 2192
Friday, April 27, 2007

Case Serial Number: 10/644359

From: Lucy Park
Location: EIC 2100
RND 4B31
Phone: 2-8667

lucy.park@uspto.gov

Search Notes

Dear Examiner Chou:

Here are the results of your Fast & Focused search on case #10/644359. Please let me know if you have any questions about the search, or if you'd like me to refocus it.

Thanks,
Lucy

Lucy Park
Patent Searcher
EIC 2100
571-272-8667

STIC EIC 2100 223106 Search Request Form

Today's Date:

4/27/2007

What date would you like to use to limit the search?

Priority Date: 8/20/2003

Other:

Name Andrew Chen

AU 2192

Examiner # 81739

Room # 5B19

Phone x6829

Serial # 10/644,359

Format for Search Results (Circle One):

PAPER

DISK

EMAIL

Where have you searched so far?

USP DWPI EPO JPO ACM IBM TDB

IEEE INSPEC SPI Other _____

Is this a "Fast & Focused" Search Request? (Circle One) YES NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at <http://ptoweb/patents/stic/stic-tc2100.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

Is this request for a BOARD of APPEALS case? (Circle One) YES NO

Is this case a SPECIAL CASE? (Circle One) YES NO

- Claim 1
- Debugging RM content
- 2 applications/processes
-

STIC Searcher Lucy Park

Phone 28667

Date picked up 4-27-2007 Date Completed 4-27-2007



STIC Search Results Feedback Form

EIC 2100

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Alyson Dill, EIC 2100 Team Leader
272-3527, RND 4B28

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 2133

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(Journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC2100 RND, 4B28



[File 347] JAPIO Dec 1976-2006/Dec(Updated 070403)
(c) 2007 JPO & JAPIO. All rights reserved.

[File 350] Derwent WPIX 1963-2007/UD=200725
(c) 2007 The Thomson Corporation. All rights reserved.

*File 350: DWPI has been enhanced to extend content and functionality of the database. For more info, visit
<http://www.dialog.com/dwpi/>.

; d s

Set Items Postings Description

S1 2425 21003 S DIGITAL(3N)RIGHT? ? OR DRM OR RIGHT? ?(3N)MANAG????
S2 2149929 9070469 S (FAULT? ? OR ERROR? ? OR BUG? ? OR FAILURE? ?)(3N) (DETECT??? OR
DETERMIN??? OR DETERMINATION OR CORRECT??? OR IDENTIFY??? OR IDENTIFICATION OR
LOCAT??? OR DEBUG????
S3 4560446 15100063 S PROCESS?? OR APPLICATION? ? OR APP OR APPS OR PROGRAM? ?
S4 141484 556332 S S3(3N)(TWO OR SECOND OR 2ND OR NEXT OR ANOTHER OR TWIN OR DUAL
OR COUPLE OR PAIR OR ADDITIONAL)
S5 56548 199018 S S3(3N)(ISOLATED OR INDEPENDENT?? OR SEPARAT??? OR QUARANTIN???)
S6 21 381 S S1 AND S2 AND S4
S7 8 135 S S6 NOT AD=20030820:20070427/PR
S8 123 781 S S1(5N)S2
S9 4 98 S S8 AND S4:S5
S10 3 92 S S9 NOT S7
S11 3 23 S S1(7N)(DEBUG? OR DE()BUG? OR BUG OR BUGS)
S12 8 230 S S1 AND (DEBUG? OR DE()BUG? OR BUG OR BUGS)
S13 5 130 S S12 NOT (S7 OR S10 OR S11)
S14 2 46 S S8 AND (TRUSTED OR SAFE)(3N)S3
S15 25 498 S S8 AND (MONITOR??? OR ACCESS???) (3N)CONTENT? ?
S16 21 423 S S15 NOT (S7 OR S10 OR S11 OR S13 OR S14)
S17 11 182 S S16 NOT AD=20030820:20070427/PR
S18 184882 1165913 S (FAULT? ? OR ERROR? ? OR BUG? ? OR FAILURE? ?)(3N)(DETECT??? OR
DETERMIN??? OR DETERMINATION OR CORRECT??? OR IDENTIFY??? OR IDENTIFICATION OR
LOCAT??? OR DEBUG????
S19 8 47 S S1(7N)S18
S20 5 24 S S19 NOT (S7 OR S10 OR S11 OR S13 OR S14)
S21 4 243 S S1 AND S18 AND (TRUSTED OR SAFE)(3N)S3
S22 3 125 S S1 AND S18 AND (MONITOR??? OR ACCESS???) (3N)CONTENT? ?
S23 3 125 S S1 AND S18 AND S4
S24 1 86 S S1 AND S18 AND S5
S25 7 482 S S21:S24
S26 2 38 S S25 NOT (S7 OR S10 OR S11 OR S13 OR S14 OR S20)

bibliographic
patents

10/5/3 (Item 3 from file: 350) [Links](#)

Derwent WPIX

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0014864146 *Drawing available*

WPI Acc no: 2005-211861/200522

XRPX Acc No: N2005-175151

Debug system for computer application with rights managed content, monitors application and non- isolated process where both employ rights managed content

Patent Assignee: DARWEESH M J (DARW-I); LAFORNARA P (LAFO-I); MARR M D (MARR-I); URECHE O T (UREC-I)

Inventor: DARWEESH M J; LAFORNARA P; MARR M D; URECHE O T

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20050044534	A1	20050224	US 2003644359	A	20030820	200522	B

Priority Applications (no., kind, date): US 2003644359 A 20030820

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 20050044534	A1	EN	16	5	

Alerting Abstract US A1

NOVELTY - The system initiates application and shell version of trusted component in **non-isolated process** monitored by debugger, and debugging version of trusted component in an **isolated process** which is not monitored by debugger, where initiated versions are unconcerned about monitoring. The debugger monitors **application** and **non-isolated process**, where both **application** and **non-isolated process** employ rights managed (RM) content.

DESCRIPTION - An **INDEPENDENT CLAIM** is also included for method for debugging computer application.

USE - For debugging computer application employing RM digital contents comprising audio, video, text, data and multimedia which are distributed to user who renders contents through media devices such as personal digital assistant (PDA), television, MP3 player and personal computer (PC).

ADVANTAGE - Enables to monitor **application** and **non-isolated process** even when **application** and process uses RM content.

DESCRIPTION OF DRAWINGS - The figure shows a block diagram of the computer application debug system.

*your
application*

11/5/1 (Item 1 from file: 350) [Links](#)

Derwent WPIX

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0016088240 *Drawing available*

WPI Acc no: 2006-619871/200664

XRPX Acc No: N2006-499225

Home entertainment network, transmits unique media ID in removable memory card to server for acquiring desired content

Patent Assignee: DOUMUKI T (DOUM-I)

Inventor: DOUMUKI T

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20060179048	A1	20060810	US 200544317	A	20050127	200664	B

Priority Applications (no., kind, date): US 200544317 A 20050127

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 20060179048	A1	EN	7	2	

Alerting Abstract US A1

NOVELTY - A client device transmits the unique media ID in a removable memory card, to a server when the user engages the card to an interface. The server searches and transmits the content corresponding to the media ID, to client device for playing.

DESCRIPTION - An INDEPENDENT CLAIM is also included for method for providing audio/video content.

USE - For home entertainment network.

ADVANTAGE - The network reduces data capacity, copying or **debugging** time and uncontrolled copying of **digital rights- managed** content, by eliminating the need for storing user name or password and video content in memory card.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating operation of home entertainment network.

11/5/3 (Item 3 from file: 350) [Links](#)

Derwent WPIX

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0011175301 *Drawing available*

WPI Acc no: 2002-113081/200215

Related WPI Acc No: 2002-065742; 2003-842405; 2003-852633; 2003-852635; 2003-864428; 2003-899909; 2004-032261; 2004-155606; 2004-830919; 2005-271742; 2006-076944; 2006-134815; 2006-182171

XRPX Acc No: N2002-084181

Digital rights management of contents downloaded to computer, involves protecting rights managed data from access by untrusted program, while executing the trusted application

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: DETREVILLE J D; ENGLAND P; LAMPSON B W

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 6330670	B1	20011211	US 1998105891	P	19981026	200215	B
			US 1999227561	A	19990108		

Priority Applications (no., kind, date): US 1998105891 P 19981026; US 1999227561 A 19990108

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 6330670	B1	EN	24	11	Related to Provisional	US 1998105891

Alerting Abstract US B1

NOVELTY - A trusted identity is assumed, for executing a trusted application. The rights managed data is loaded into a memory for access by the trusted application. The rights managed data is protected from access by an untrusted program while executing the trusted application.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- Computer system;
- Recorded medium storing program for digital rights management operating system

USE - For protecting rights managed data such as downloaded content from access by untrusted program in computer system, hand-held devices, multiprocessor system, multiprocessor based or programmable consumer electronics, network PCs, minicomputers, main frame computer.

ADVANTAGE - Protects content downloaded to general-purpose personal computer within the frame work of standard operating system and without the need for additional and specialized hardware.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart of a method to be performed by a client when booting or loading system components.

13/5/5 (Item 5 from file: 350) [Links](#)

Derwent WPIX

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0012989730 *Drawing available*

WPI Acc no: 2003-067463/200306

XRPX Acc No: N2003-052367

Digital content protection method e.g. for movie, involves protecting content according to content security scheme and constructing descrambler with variable descrambler security scheme to read content

Patent Assignee: BELENKY Y (BELE-I); BENEDEK G (BENE-I); HIBSHOOSH E (HIBS-I); NDS LTD (NDSN-N); SHEN-ORR C (SHEN-I); SHKEDY Z (SHKE-I); SOLOW H (SOLO-I); TSURIA Y (TSUR-I)

Inventor: BELENKY Y; BENEDEK G; HIBSHOOSH E; SHEN ORR C; SHEN-ORR C; SHKEDY Z; SOLOW H; TSURIA Y

Patent Family (5 patents, 99 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2002079955	A2	20021010	WO 2002IL137	A	20020221	200306	B
EP 1410140	A2	20040421	EP 2002700544	A	20020221	200427	E
			WO 2002IL137	A	20020221		
AU 2002233609	A1	20021015	AU 2002233609	A	20020221	200432	E
AU 2002233609	A2	20021015	AU 2002233609	A	20020221	200436	E
US 20040111613	A1	20040610	WO 2002IL137	A	20020221	200438	E
			US 2003472286	A	20031211		

Priority Applications (no., kind, date): US 2003472286 A 20031211; US 2001279889 P 20010328; US 2001338279 P 20011204

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 2002079955	A2	EN	68	8		
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW					
Regional Designated States,Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
EP 1410140	A2	EN			PCT Application	WO 2002IL137
					Based on OPI patent	WO 2002079955
Regional Designated States,Original	AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
AU 2002233609	A1	EN			Based on OPI patent	WO 2002079955
AU 2002233609	A2	EN			Based on OPI patent	WO 2002079955
US 20040111613	A1	EN			PCT Application	WO 2002IL137

Alerting Abstract WO A2

NOVELTY - The digital content is protected according to a content security scheme to form protected content. A descrambler is constructed to read the protected content and the descrambler is protected according to a variable descrambler security scheme which is varied according to several variable parameters, to produce a protected descrambler.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- Digital content protecting system;
- Protected digital content package;
- Software code protection method;
- Signature generation method;
- Compiler; and
- Protected digital content.

USE - To provide variable protection of digital content such as movie for digital rights management.

ADVANTAGE - By implementing mechanisms by which obfuscation and debug protection are randomly and automatically applied, and incorporating them in a DRM system **which** proactively varies its apparent scheme, protects content by a scheme which **appears** to be new and different for each block of content, which is hard enough to defeat by a hacker.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of a system for secure and variable delivery of digital content.

[File 348] EUROPEAN PATENTS 1978-2007/ 200716

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*File 348: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.

[File 349] PCT FULLTEXT 1979-2007/UB=20070419UT=20070312

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*File 349: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.

; d s

Set Items Postings Description

S1 4739 90939 S DIGITAL(3N)RIGHT? ? OR DRM OR RIGHT? ?(3N)MANAG????

S2 116435 1889518 S (FAULT? ? OR ERROR? ? OR BUG? ? OR FAILURE? ?)(3N)(DETECT??? OR DETERMIN??? OR DETERMINATION OR CORRECT??? OR IDENTIFY??? OR IDENTIFICATION OR LOCAT???) OR DEBUG????

S3 3123664 44486637 S PROCESS?? OR APPLICATION? ? OR APP OR APPS OR PROGRAM? ?

S4 335488 1989086 S S3(3N)(TWO OR SECOND OR 2ND OR NEXT OR ANOTHER OR TWIN OR DUAL OR COUPLE OR PAIR OR ADDITIONAL)

S5 103980 450172 S S3(3N)(ISOLATED OR INDEPENDENT?? OR SEPARAT??? OR QUARANTIN???)

S6 9 112 S S1(100N)S2(100N)S4

S7 9 79 S S1(100N)S2(100N)S5

S8 17 190 S S6:S7

S9 16 184 S S8 NOT AD=20030820:20070427/PR

S10 25 180 S S1(50N)(DEBUG? OR DE()BUG? OR BUG OR BUGS)

S11 18 91 S S10 NOT S9

S12 13 76 S S11 NOT AD=20030820:20070427/PR

S13 16 87 S S1(7N)S2

S14 6 80 S S1(50N)S2(20N)(TRUSTED OR SAFE)(3N)S3

S15 27 396 S S1(50N)S2(20N)(MONITOR??? OR ACCESS???) (3N)CONTENT? ?

S16 39 537 S S13:S15

S17 20 202 S S16 NOT (S9 OR S12)

S18 8 55 S S17 NOT AD=20030820:20070427/PR

fulltext
patents

12/3K/3 (Item 3 from file: 348) [Links](#)

EUROPEAN PATENTS

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01674417

Secure and opaque type library providing secure data protection of variables

Sichere und undurchsichtige Bibliothek von Typen zum gesicherten Datenschutz von Variablen

Bibliothèque de types sécurisée et opaque permettant la protection sécurisée des données variables

Patent Assignee:

- **MICROSOFT CORPORATION;** (749866)
One Microsoft Way; Redmond, WA 98052; (US)
(Applicant designated States: all)

Inventor:

- **Chen, Yuqun**
14609 NE 45th St., Unit E-3; Bellevue, Washington 98007; (US)
- **Venkatesan, Ramarathnam**
17208 NE 22nd CT.; Redmond, Washington 98052; (US)
- **Jakubowski, Mariusz H.**
1840 154th Avenue NE, No.C-222; Bellevue, Washington 98007; (US)

Legal Representative:

- **Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721)**
Maximilianstrasse 58; 80538 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1376310	A2	20040102	(Basic)
Application	EP	2003014102		20030623	
Priorities	US	185644		20020628	

Designated States:

AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LI; LU; MC;
NL; PT; RO; SE; SI; SK; TR;

Extended Designated States:

AL; LT; LV; MK;

International Patent Class (V7): G06F-001/00Abstract Word Count: 145

NOTE: 1

NOTE: Figure number on first page: 1

Type	Pub. Date	Kind	Text
------	-----------	------	------

Publication: English

Procedural: English

Application: English

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200401	1082
SPEC A	(English)	200401	6614
Total Word Count (Document A) 7696			
Total Word Count (Document B) 0			
Total Word Count (All Documents) 7696			

Specification: ...discover what the program is doing by setting appropriate breakpoints and checking register contents. Though **DRM** systems often employ some form of anti-**debugging**, such measures historically have been easy to not so hard to defeat; also, powerful **debuggers**, simulators, and in-circuit emulators can render the entire system at the attacker's disposal...

12/3K/4 (Item 4 from file: 348) [Links](#)

EUROPEAN PATENTS

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01409158

Transparent digital rights management for extendible content viewers

Transparente Verwaltung digitaler Berechtigungen für einen dehnbaren Inhaltsbetrachter

Gestion transparente des droits numériques pour une visionneuse de contenu extensible

Patent Assignee:

- **International Business Machines Corporation; (200129)**
New Orchard Road; Armonk, NY 10504; (US)
(Applicant designated States: all)

Inventor:

- **Mourad, Magda M.**
c/o IBM United Kingdom, Ltd. I.P. Law Hursley Park; Winchester, Hampshire SO21 2JN; (GB)
- **Munson, Jonathan P.**
c/o IBM United Kingdom, Ltd. I.P. Law Hursley Park; Winchester, Hampshire SO21 2JN; (GB)
- **Nadeem, Tamer**
c/o IBM United Kingdom, Ltd. I.P. Law Hursley Park; Winchester, Hampshire SO21 2JN; (GB)
- **Pacifici, Giovanni**
c/o IBM United Kingdom, Ltd. I.P. Law Hursley Park; Winchester, Hampshire SO21 2JN; (GB)
- **Pistoia, Marco**
c/o IBM United Kingdom, Ltd. I.P. Law Hursley Park; Winchester, Hampshire SO21 2JN; (GB)
- **Youssef, Alaa S.**
c/o IBM United Kingdom, Ltd. I.P. Law Hursley Park; Winchester, Hampshire SO21 2JN; (GB)

Legal Representative:

- **Burt, Roger James, Dr. (52152)**
IBM United Kingdom Limited Intellectual Property Department Hursley Park; Winchester Hampshire SO21 2JN; (GB)

	Country	Number	Kind	Date	
Patent	EP	1191422	A2	20020327	(Basic)
	EP	1191422	A3	20040922	
	EP	1191422	A3	20040922	
Application	EP	2001308058		20010921	
Priorities	US	667286		20000922	

Designated States:

AT; BE; CH; CY; DE; DK; ES; FI; FR; GB;
GR; IE; IT; LI; LU; MC; NL; PT; SE; TR;

Extended Designated States:

AL; LT; LV; MK; RO; SI;

International Patent Class (V7): G06F-001/00**Abstract Word Count:** 138

NOTE: 11

NOTE: Figure number on first page: 11

Type	Pub. Date	Kind	Text
------	-----------	------	------

Publication: English

Procedural: English

Application: English

Available Text	Language	Update	Word Count
CLAIMS.A	(English)	200213	540
SPEC A	(English)	200213	8499
Total Word Count (Document A) 9039			
Total Word Count (Document B) 0			
Total Word Count (All Documents) 9039			

Specification: ...on disk. The code that generates this secret and uses it is part of a **DRM** library, which is used by the different **DRM** client-side components, such as the trusted content handler, the launcher, and the registration application. The code of this **DRM** library is preferably obfuscated and well-protected against tampering or **debugging** attacks.

Any content directed to this client is protected using the public key which is stored on the **DRM** server. As will be discussed in greater detail below, public key encryption is preferably applied...together, and depicts the overall end-to-end lightweight DRM-enabled content distribution architecture. The **DRM** library shown on the client side encloses all the cryptography, keys, and rights handling sensitive...the different client-side components (Launcher, TCH, and Registration modules). The object code of the **DRM** library is preferably obfuscated and should be resistant to tampering and **debugging** attacks.

12/3K/6 (Item 2 from file: 349) [Links](#)

PCT FULLTEXT

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01139461

METHODS AND APPARATUS FOR MANAGING SECURED SOFTWARE FOR A WIRELESS DEVICE
PROCEDES ET APPAREIL POUR LA GESTION DE LOGICIEL SECURISE POUR UN DISPOSITIF SANS FIL

Patent Applicant/Patent Assignee:

- **MOTOROLA INC A CORPORATION OF THE STATE OF DELAWARE**; 1303 East Algonquin Road,
Schaumburg, IL 60196
US; US(Residence); US(Nationality)

Legal Representative:

- **CHAPA Lawrence J(et al)(agent)**
600 North US Highway 45, Libertyville, IL 60048; US;

	Country	Number	Kind	Date
Patent	WO	200462164	A2	20040722
Application	WO	2003US39333		20031210
Priorities	US	2002334849		20021231

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; SD; SL; SZ;
TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English

Filing Language: English

Fulltext word count: 7839

Claims:

...application;

protecting the first combination using a DRM scheme;creating the DRM license for the **DRM**-protected first combination;creating the feature license; andcreating a protected software package of the **DRM**-protected first combination, the **DRM** license and the feature license.

2 A method as described in claim 1, wherein creating the validation license includes verifying the software application for a software **bug** or a software virus.

3 A method as described in claim 2, wherein creating the **DRM** license includes granting a first device a right to access the software application, where the... ..5) create a protected software package as a combination of the encrypted first combination, the **DRM** license and the feature license.

14 A system as described in claim 13, wherein the... ..further adapted to create the validation license after verifying the software application for a software **bug** or a software virus.

20. A system as described in claim 14, wherein the distribution server is further adapted to create the **DRM** license by granting a first device a right to access the software application, where the...

12/3K/7 (Item 3 from file: 349) [Links](#)

PCT FULLTEXT

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01138463

CONTENT RIGHTS MANAGEMENT SYSTEM

SYSTEME DE GESTION DES DROITS SUR LE CONTENU

Patent Applicant/Patent Assignee:

- **INTERNATIONAL BUSINESS MACHINES CORPORATION**; New Orchard Road, Armonk, NY 10504
US; US(Residence); US(Nationality)

- **IBM UNITED KINGDOM LIMITED**; PO Box 41, North Harbour, Portsmouth, Hampshire PO6 3AU
GB; GB(Residence); GB(Nationality)
(Designated only for: MG)

Legal Representative:

- **WILLIAMS Julian David(agent)**
IBM United Kingdom Limited, Intellectual Property Law, Hursley Park, Winchester, Hampshire SO21 2JN;
GB;

	Country	Number	Kind	Date
Patent	WO	200461623	A1	20040722
Application	WO	2003GB5509		20031217
Priorities	US	2003337196		20030106

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; SD; SL; SZ;
TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English
Filing Language: English
Fulltext word count: 6891

Detailed Description:

...result of 'the execution of a trusted application that accesses the memory. To protect the **rights-managed** data resident in memory, the **digital rights** management operating system refuses to load an untrusted program into memory while the trusted application... ..untrusted program. if the untrusted program executes at the operating system level, such as a **debugger**, the **digital rights** management operating system renounces a trusted identity created for it by the computer processor when the computer was booted. To protect the **rights-managed** data on the page

file, the **digital rights** management operating system prohibits raw access to the page file, or erases the data from...

12/3K/8 (Item 4 from file: 349) [Links](#)

PCT FULLTEXT

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01134055

METHOD OF DEFENDING SOFTWARE FROM DEBUGGER ATTACKS

PROCEDE DE PROTECTION D'UN LOGICIEL CONTRE DES ATTAQUES UTILISANT DES DEBOGUEURS

Patent Applicant/Patent Assignee:

- **INTEL CORPORATION**; 2200 Mission College Boulevard, Santa Clara, CA 95052
US; US(Residence); US(Nationality)

Legal Representative:

- **MALLIE Michael J(agent)**
Blakely, Sokoloff, Taylor & Zafman, 12400 Wilshire Boulevard, 7th Floor, Los Angeles, CA 90025; US;

	Country	Number	Kind	Date
Patent	WO	200455653	A2-A3	20040701
Application	WO	2003US36311		20031112
Priorities	US	2002319736		20021212

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; SD; SL; SZ;
TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English

Filing Language: English

Fulltext word count: 5140

Detailed Description:

Method of Defending Software
from **Debugger** Attacks

BACKGROUND

FIELD

The present invention relates generally to content protection and **digital rights** management and, more specificallyY7 to deterring **debugger** attacks on software.

2. DESCRIPTION

The personal computer (PC) platform is an open and accessible...

12/3K/9 (Item 5 from file: 349) [Links](#)

PCT FULLTEXT

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01060052

SECURITY FRAMEWORK FOR PROTECTING RIGHTS IN COMPUTER SOFTWARE

STRUCTURE DE SECURITE POUR PROTEGER DES DROITS D'UN LOGICIEL INFORMATIQUE

Patent Applicant/Patent Assignee:

- **CORE SDI INCORPORATED**; 46 Farnsworth Streets, Boston, MA 02210
US; US(Residence); US(Nationality)

Legal Representative:

- **WISCHHUSEN Carl B(et al)(agent)**
Fitzpatrick, Cella, Harper & Scinto, 30 Rockefeller Plaza, New York, NY 10112-3801; US;

	Country	Number	Kind	Date
Patent	WO	200390021	A2-A3	20031030
Application	WO	2003US11652		20030415
Priorities	US	2002372202		20020415

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ;
UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English

Filing Language: English

Fulltext word count: 12013

Detailed Description:

...result of the execution of a trusted application that accesses the memory.

To protect the **rights-managed** data resident in memory, the **digital rights** management operating system refuses to load an untrusted program into memory while the trusted application... ..untrusted program. If the untrusted program executes at the operating system level, such as a **debugger**, the **digital rights** management operating system renounces a trusted identity created for it by the computer processor when the computer was booted. To protect the **rights-managed** data on the page file, the **digital rights** management operating system prohibits raw access to the page file, or erases the data from...

12/3K/12 (Item 8 from file: 349) [Links](#)

PCT FULLTEXT

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00845333

SECURE DIGITAL CONTENT LICENSING SYSTEM AND METHOD

SYSTEME SECURISE D'OCTROI DE LICENCE CONCERNANT UN CONTENU NUMERIQUE ET PROCEDE ASSOCIE

Patent Applicant/Patent Assignee:

- **SONY PICTURES DIGITAL ENTERTAINMENT INC;** 3960 Ince Boulevard, #1052, Culver City, CA 90232
US; US(Residence); US(Nationality)

Legal Representative:

- **RITTMASER Ted R(agent)**

Foley & Lardner, 35th Floor, 2029 Century Park East, Los Angeles, CA 90067-3021; US;

	Country	Number	Kind	Date
Patent	WO	200178303	A1	20011018
Application	WO	2001US11381		20010406
Priorities	US	2000195870		20000407
	US	2000603805		20000620
	US	2001273444		20010305

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; CH; CY; DE; DK; ES; FI; FR; GB;
GR; IE; IT; LU; MC; NL; PT; SE; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML;
MR; NE; SN; TD; TG;

[AP] GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ;
UG; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Publication Language: English

Filing Language: English

Fulltext word count: 12464

Detailed Description:

...a user-perceptible form unless a valid license associated with the content has been enabled. **DRM 430** may be run either in the user (application) space or in the kernel space. **DRM 430** is protected against tampering by the use of code obfuscation and tamper detection techniques. **DRM** also comprises anti-debugging capabilities that detect comm on debugging traps.

Besides **DRM 430**, media player and security technology 424 further comprises other blocks of code. Decryption block...

Claims:

...the hardware interface, and the monitor.

25 The system recited in claim 24, wherein the **digital rights** management code is protected against tampering by at least one of codeobfuscation and anti-**debugging** techniques.

26 The system recited in claim 24, wherein the **digital rights** management code provides the secure inter-process communication data streambetween the decryption code, the...

18/3K/3 (Item 3 from file: 348) [Links](#)

EUROPEAN PATENTS

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01425096

SYSTEMS AND METHODS FOR INTEGRITY CERTIFICATION AND VERIFICATION OF CONTENT CONSUMPTION ENVIRONMENTS

SYSTEME UND VERFAHREN ZUR INTEGRITÄT SZERTIFIKATION UND VERIFIKATION VON INHALTSVERBRAUCHSUMGEBUNGEN

SYSTEMES ET PROCEDES DE CERTIFICATION D'INTEGRITE ET DE VERIFICATION D'ENVIRONNEMENTS DE CONSOMMATION DE CONTENU

Patent Assignee:

- **ContentGuard Holdings, Inc.**; (3202251)
103 Foulk Road, Suite 200-M; Wilmington, Delaware 19803; (US)
(Proprietor designated states: all)

Inventor:

- **TA, Thanh**
18694 Stratton Lane; Huntington Beach, CA 92648; (US)
- **WANG, Xin**
3005 Shrine Place, 8; Los Angeles, CA 90007; (US)

Legal Representative:

- **Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721)**
Maximilianstrasse 58; 80538 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1301863	A2	20030416	(Basic)
	EP	1301863	B1	20060503	
	WO	2002019598		20020307	
Application	EP	2001964447		20010828	
	WO	2001US26634		20010828	
Priorities	US	649838		20000828	

Designated States:

AT; BE; CH; CY; DE; DK; ES; FI; FR; GB;
GR; IE; IT; LI; LU; MC; NL; PT; SE; TR;

Extended Designated States:

AL; LT; LV; MK; RO; SI;

International Patent Class (V7): G06F-012/14; G06F-012/16; H04L-009/00

IPC	Level	Value	Position	Status	Version	Action	Source	Office
G06F-0012/14	A	I	F	B	20060101	20020704	H	EP
G06F-0012/16	A	I	L	B	20060101	20030514	H	EP
H04L-0009/00	A	I	L	B	20060101	20030514	H	EP
H04L-0029/06	A	I	L	B	20060101	20030514	H	EP

NOTE: No A-document published by EPO

Type	Pub. Date	Kind	Text
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Publication: English
Procedural: English
Application: English

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200618	1139
CLAIMS B	(German)	200618	1092
CLAIMS B	(French)	200618	1364
SPEC B	(English)	200618	6724
Total Word Count (Document A) 0			
Total Word Count (Document B) 10319			
Total Word Count (All Documents) 10319			

Specification: ...applications and systems that have desired characteristics and behaviors. By controlling these aspects of the **content** consumption environment, the **content** provider can, for example, restrict usage, e.g., copying, printing, embedding, distribution, or the like.

For example, a **content** provider may want to protect **content** against misuse by demanding that the system that consumes the **content** be of a certain level of security and rights management capability. The **content** provider may also want to assure that no "alien" application, e.g., a **debugger**, virus, interception routine, or the like, interacts with the **content** consumption application on the user system which may confiscate or otherwise "steal" the **content** or other sensitive information.

In order to certify that given applications and systems have desired ... and behaviors, a verification of all the applications and system components needed to consume the **content** need be confirmed by a verification application.

US-A-6 006 332 discloses a **rights** management system for **digital** media for controlling **access** to digitalized data. The intellectual property existing in rights management system A are provided to...

[File 2] **INSPEC** 1898-2007/Apr W3
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[File 6] **NTIS** 1964-2007/Apr W4
(c) 2007 NTIS, Intl Cpyrght All Rights Res. All rights reserved.

[File 8] **Ei Compendex(R)** 1884-2007/Apr W3
(c) 2007 Elsevier Eng. Info. Inc. All rights reserved.

[File 23] **CSA Technology Research Database** 1963-2007/Apr
(c) 2007 CSA. All rights reserved.

[File 34] **SciSearch(R) Cited Ref Sci** 1990-2007/Apr W4
(c) 2007 The Thomson Corp. All rights reserved.

[File 35] **Dissertation Abs Online** 1861-2007/Apr
(c) 2007 ProQuest Info&Learning. All rights reserved.

[File 65] **Inside Conferences** 1993-2007/Apr 27
(c) 2007 BLDSC all rts. reserv. All rights reserved.

[File 95] **TEME-Technology & Management** 1989-2007/Apr W4
(c) 2007 FIZ TECHNIK. All rights reserved.

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2007/Mar
(c) 2007 The HW Wilson Co. All rights reserved.

[File 111] **TGG Natl.Newspaper Index(SM)** 1979-2007/Apr 24
(c) 2007 The Gale Group. All rights reserved.

[File 144] **Pascal** 1973-2007/Apr W3
(c) 2007 INIST/CNRS. All rights reserved.

[File 239] **Mathsci** 1940-2007/May
(c) 2007 American Mathematical Society. All rights reserved.

[File 256] **TecInfoSource** 82-2007/Apr
(c) 2007 Info.Sources Inc. All rights reserved.

[File 434] **SciSearch(R) Cited Ref Sci** 1974-1989/Dec
(c) 2006 The Thomson Corp. All rights reserved.

NPL

```
; d s
Set  Items  Postings  Description
S1   7551   24604  S DIGITAL(3N)RIGHT? ? OR DRM OR RIGHT? ?(3N)MANAG????
S2   412837 1437783 S (FAULT? ? OR ERROR? ? OR BUG? ? OR FAILURE? ?)(3N)(DETECT??? OR
DETERMIN??? OR DETERMINATION OR CORRECT??? OR IDENTIFY??? OR IDENTIFICATION OR
LOCAT???) OR DEBUG????
S3   16348840 30727605 S PROCESS?? OR APPLICATION? ? OR APP OR APPS OR PROGRAM? ?
S4   576332 1551855 S S3(3N)(TWO OR SECOND OR 2ND OR NEXT OR ANOTHER OR TWIN OR
DUAL OR COUPLE OR PAIR OR ADDITIONAL)
S5   136443 321653 S S3(3N)(ISOLATED OR INDEPENDENT?? OR SEPARAT??? OR QUARANTIN???)
S6    1      9 S S1 AND S2 AND S4
S7   57     296 S S1 AND S2
S8    0      0 S S7 AND S5
S9    2      7 S S1(7N)S2
S10   2      7 S S9 NOT S6
S11  10     36 S S1 AND (DEBUG? OR DE()BUG? OR BUG OR BUGS)
```

S12	8	28	RD (unique items)
S13	7	25	S S12 NOT (S6 OR S10)
S14	44	238	RD S7 (unique items)
S15	37	209	S S14 NOT (S6 OR S10 OR S13)
S16	20	94	S S15 NOT PY=2004:2007

16/5/2 (Item 2 from file: 2) [Links](#)

INSPEC

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08533993 **INSPEC Abstract Number:** C2003-03-7120-047

Title: Escrow services and incentives in peer-to-peer networks

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Abstract: Distribution of content, such as music, remains one of the main drivers of P2P development. Subscription-based services are currently receiving a lot of attention from the content industry as a viable business model for P2P content distribution. One of the main problems that such services face is that users may choose to redistribute content outside the community of subscribers, thereby facilitating large-scale piracy. **Digital Rights Management (DRM)** systems typically employ tamper resistance techniques to control this risk. We propose a system architecture that uses economic incentives instead of tamper resistance to motivate users to keep the content within the subscription community. The key technical contribution we make is to integrate a P2P file sharing service with an escrow service that reliably "pays" the party that is serving up the content. The payment itself can be realized in a number of ways, using "actual" money or bonus points such as frequent flyer miles. Moreover, our architecture facilitates trust between two unacquainted parties by offloading risk to a trusted third party, which can acquire a revenue stream by assuming this risk. To implement the escrow service securely we use cryptographic techniques, such as encryption, hashing, and **error correcting** codes. Our system motivates users to serve up content of high quality and verifies that users only share legitimate content and not spam, viruses or content that is not part of the subscription. We thereby address other important security concerns in P2P systems and problems like the free-rider phenomenon. (20 Refs)

Subfile: C

Descriptors: copyright; cryptography; electronic commerce; **error correction** codes; Internet; music

Identifiers: peer-to-peer networks; content distribution; music distribution; escrow services; subscription-based services; business model; piracy; **digital rights** management systems; tamper resistance techniques; economic incentives; P2P file sharing service; system architecture; trust; unacquainted parties; trusted third party; revenue stream; risk; cryptographic techniques; encryption; hashing; **error correcting** codes; legitimate content sharing; free-rider phenomenon

Class Codes: C7120 (Financial computing); C6130S (Data security); C7210N (Information networks); C0230B (Legal aspects of computing)

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